

Appl. No. 10/616,799

Reply to Office action of November 23, 2004

Remarks/Arguments

1. Amendments to the Specification

To facilitate in the reporting of Governmental License Rights in the present application, the Applicants have amended the written specification. Specifically, the U.S. Government has a paid-up license in this invention and the right in limited circumstances to require the patent owner to license others on reasonable terms as provided for by the terms of N66001-98-1-8914 awarded by the Defense Advanced Research Projects Agency (DARPA). No new matter has been introduced by these amendments.

2. Claim Objections

In the Office action, it was alleged that the numbering of the claims was not in accordance with 37 CFR 1.126. More specifically, two claims were numbered 83, claim 84 was misnumbered, and claims 89-91 were misnumbered. To that end, the Applicants have amended the claims such that the numbering of the claims are in accordance with 37 CFR 1.126.

3. Rejections under 35 USC § 102

In the Office action, claims 77, 82, and 87 were rejected under 35 USC § 102(b) as being anticipated by U.S. Patent 5,515,167 to Ledger et al. [hereinafter Ledger]. To summarize the standard, rejections under Section 102 are proper only when one prior art reference discloses every feature of the claimed invention so that there is no physical difference between the reference and the claimed invention. (See In re Marshall, 198 USPQ 344 (CCPA 1978)).

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1. Claim 77

Claim 77, as amended, defines a method of manufacturing a vacuum chuck, the vacuum chuck comprising a chuck body including, *inter alia*, forming in the first surface, a plurality of through holes extending between the first and second opposed surfaces, and etching into the first surface a desired formation including a recess having a nadir surface, with one of the plurality of through holes disposed in the nadir surface.

Ledger does not teach forming a plurality of through holes and also etching a recess into the same surface of a chuck body. Rather, Ledger teaches forming a plurality of through holes (indicated as holes 26 in Ledger) in a *first surface* (indicated as surface 20 in Ledger) and machining a recess (indicated as countersunk or cored holes 28) in a *second surface* (indicated as second surface 30). See column 3, line 65 to column 4, line 3. To that end, referring to Fig. 2, it is clear that surface 20 differs from second surface 30. Based on the foregoing, Applicants respectfully contend that Ledger does not anticipate claim 77, as amended.

ii. Claim 82

Claim 82, as amended, defines a method of manufacturing a vacuum chuck, the vacuum chuck comprising a chuck body having first and second opposed surfaces, the method including, *inter alia*, forming in the first surface, a plurality of through holes extending between the first and second opposed surfaces, and etching into the first surface

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a desired formation including a plurality of recesses each having a nadir surface, with each of the plurality of through holes disposed in one of the nadir surfaces. Applicants respectfully contend that the argument set forth above with respect to claim 77, as amended, applies with equal weight here and that claim 82, as amended, defines an invention suitable for patent protection.

iii. Claim 87

Claim 87, as amended, defines a method of manufacturing a vacuum chuck, the vacuum chuck comprising a chuck body having first and second opposed surfaces, the method including, *inter alia*, forming in the first surface, a plurality of through holes extending between the first and second opposed surfaces, and etching into the first surface a desired formation including a recess having a nadir surface, with one of the plurality of through holes disposed in the nadir surface, wherein a cross-sectional area of the recess is greater than a cross-sectional area of the through hole. Applicants respectfully contend that the argument set forth above with respect to claim 77, as amended, applies with equal weight here and that claim 87, as amended, defines an invention suitable for patent protection.

4. Rejections under 35 USC § 103

In the Office action, claims 77-91 were rejected as allegedly being obvious by Ledger in view of U.S. Patent 5,324,012 to Aoyama et al.

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i. Claim 77

As mentioned above, claim 77, as amended, defines a method of manufacturing a vacuum chuck, the vacuum chuck comprising a chuck body including, *inter alia*, forming in the first surface, a plurality of through holes extending between the first and second opposed surfaces, and etching into the first surface a desired formation including a recess having a nadir surface, with one of the plurality of through holes disposed in the nadir surface.

Ledger, on the other hand, does not teach forming a plurality of through holes and also etching a recess into the same surface of a chuck body. Rather, Ledger teaches forming a plurality of through holes (indicated as holes 26 in Ledger) in a *first surface* (indicated as surface 20 in Ledger) and machining a recess (indicated as countersunk or cored holes 28) in a *second surface* (indicated as second surface 30). See column 3, line 65 to column 4, line 3. To that end, referring to Fig. 2, it is clear that surface 20 differs from second surface 30. Thus it becomes clear that Ledger teaches away from Applicants' claimed invention by advocating forming the plurality of through holes and the recess in differing sides of the chuck body. Based upon the foregoing, Applicants respectfully contend that a *prima facie* case of obviousness is not present with respect to claim 77, as amended.

ii. Claim 82

Claim 82, as amended, defines a method of manufacturing a vacuum chuck, the vacuum chuck comprising a chuck body having first and second opposed surfaces, the method

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including, *inter alia*, forming in the first surface, a plurality of through holes extending between the first and second opposed surfaces, and etching into the first surface a desired formation including a plurality of recesses each having a nadir surface, with each of the plurality of through holes disposed in one of the nadir surfaces. Applicants respectfully contend that the argument set forth above with respect to claim 77, as amended, applies with equal weight here and that claim 82, as amended, defines an invention suitable for patent protection.

iii. Claim 87

Claim 87, as amended, defines a method of manufacturing a vacuum chuck, the vacuum chuck comprising a chuck body having first and second opposed surfaces, the method including, *inter alia*, forming in the first surface, a plurality of through holes extending between the first and second opposed surfaces, and etching into the first surface a desired formation including a recess having a nadir surface, with one of the plurality of through holes disposed in the nadir surface, wherein a cross-sectional area of the recess is greater than a cross-sectional area of the through hole. Applicants respectfully contend that the argument set forth above with respect to claim 77, as amended, applies with equal weight here and that claim 87, as amended, defines an invention suitable for patent protection.

5. The Non-obviousness of the Dependent Claims

Considering that the dependent claims include all of the features of the independent claims from which they depend,

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these claims are patentable to the extent that the independent claims are patentable. Therefore, Applicants respectfully contends that the dependent claims defined system suitable for patent protection.

Applicants respectfully request examination in view of the remarks. A notice of allowance is earnestly solicited.

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to the Commissioner for Patents.

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Respectfully Submitted,



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